

Can Sterile Neutrino Explain Very High Energy Photons from GRB221009A?

The LHAASO collaboration has reported their observation of very high energy photons ($E_{\text{max}}=18\text{TeV}$) from the gamma-ray burst GRB221009A. The sterile neutrino that involves both mixing and transition magnetic moment may be a viable explanation for these high energy photon events. However, we demonstrate that such a solution is strongly disfavored by the cosmic microwave background (CMB) and Big Bang nucleosynthesis (BBN) in the standard cosmology.

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